

1. JOB DESCRIPTION

Job Title: Senior Biomedical Scientist (BMS 2)

Department(s): Biochemistry

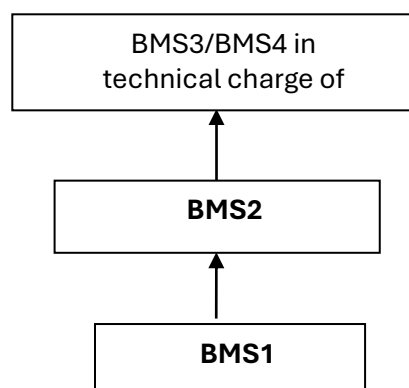
CAJE ID: HSS.0081

No of Job Holders:

2. JOB PURPOSE

- Manages and coordinates day-to-day technical activities of a section(s) of the department.
- Responsible for standards and quality of performance of the section(s) including instrument problem solving and trouble shooting.
- Processes a broad range of specialist and routine laboratory diagnostic investigations in a Department of a Laboratory using a range of scientific measurements and technical procedures on patient samples.
- Provides advice to clinicians as to appropriateness of tests and time-scales.
- Develop and delivers training and assesses competence of Biomedical Scientists, Trainee Biomedical Scientists and Medical laboratory Assistants.

3. ORGANISATIONAL POSITION



4. SCOPE AND RANGE

The Clinical Laboratories in NHSL comprise departments of Biochemistry, Haematology (including Blood Transfusion), Microbiology (including Virology) and Pathology (including Cytology and Mortuary Services).

A comprehensive, analytical, interpretive and clinical advisory laboratory based service is provided to:

- Hospital In-patient, Out-patient and Day Care Units.
- General Practitioners in Primary Care and Community Health Services and Hospitals.
- Public Health Medicine.
- NHSL Occupational Health and Safety Service (SALUS)
- Procurators Fiscal in Hamilton, Airdrie and Lanark.

The Laboratories support point of care testing directly in wards and clinics and at local Health Centres e.g. one stop breast, anticoagulant and diabetes clinics and provide training for patients in self use devices e.g. diabetes monitoring.

In addition the services collaborate in a range of research and development and clinical audit projects with clinicians and other Healthcare professionals and provide research and development support to drug and diagnostic companies.

A staff of 270 provide services to a Lanarkshire population of 563,000 with a total of more than 10 million investigations per annum. Approximately 50% of the investigations are carried out for hospital based patients and 50% for the 360 General Practitioners in around 100 locations. Population screening programmes include Cervical Cytology, Blood Borne Virus Testing (e.g. antenatal screening) and other investigations link to programmes of health improvement across the county.

All acute aspects of the service operate 24 hours each day 365 days per year.

The service is provided by various professionals including Biomedical Scientists, Administrative and Clerical Staff, Clinical Scientists, Cytology Screeners, Medical Laboratory Assistants, Medical Staff, Mortuary Staff, Nursing Staff and Phlebotomy Staff.

5. MAIN DUTIES/RESPONSIBILITIES

Responsible for first-line management of a section(s) of the laboratory, maintaining the level of service necessary for the high standard of patient care, including supervision of qualified and unqualified staff working in that area.

Policies and Procedures

- Adherence to policies and procedures relevant to all areas of work in accordance with Departmental, Directorate, Hospital and regulatory requirements. These would include the following:
 - All Standard Operating Procedures.
 - Quality Management Policies
 - External Quality Assessment and Internal Quality Control
 - Laboratory and Hospital Health and Safety
 - Risk Management
 - Adherence to NHSL policies and current data protection legislation.
 - Participation in annual joint review/personal development planning

Management Duties

- Maintains scientific and technical standards, policies and procedures in accordance with local and national regulatory requirements. Monitors compliance within areas of responsibility, taking action to maintain or improve performance as required. Advises BMS3 or BMS in technical charge of department and/or clinical/medical laboratory staff on the above.
- Responsible for advanced maintenance, maintenance records and trouble shooting of all equipment within section(s) to ensure safety of all users.
- Prepare and review standard operating procedures for area of responsibility.
- Line management responsibility for clinical risk management for the section(s).
- Line management responsibility for communication within the section(s).
- Create staff rotas and training plans for individual staff.
- Planning staff rotas, work planning where there is a need to allocate and re-allocate tasks on a daily basis to meet departmental demands.
- Organise workload of section(s) to ensure efficient and effective use of staff.
- Deputize for more senior staff in their absence.
- Responsible for ensuring continuity of service during instrument failure.
- Responsible within section(s) for the management and storage of pathological materials.
- Rotate through specialist sections to keep skills updated whilst retaining responsibility for own area
- Perform delegated duties as agreed with more senior staff, suggesting and implementing changes/improvements where appropriate, the results of which may affect service users and clients from other areas.
- Ensure continuity of service is maintained by managing reagent stock levels and ensuring the efficient and effective use of expensive consumable materials.
- Responsible for ensuring that equipment used for near patient testing meets all performance and safety criteria.

Personnel Duties

- Participate in Personal Development Planning (PDP) review for other staff.
- Participate in staff recruitment interviews as required.
- Line management responsibilities for Human Resource issues within area of responsibility.

Teaching and Training

- Develop and participate in a training programme for instruction of staff and continuing education in area of responsibility.
- Act as a mentor and deliver training to all grades of staff.

Quality Control and Quality Management

- Participate in the quality management system by undertaking audit, error logging using the Q Pulse quality system.
- Responsible for advanced maintenance, maintenance records and trouble shooting of all equipment within section to ensure safety of all users.
- Implement and monitor quality and performance of the section(s) and take appropriate corrective action in accordance with laboratory policies and the requirements of regulatory agencies.
- Responsible for communicating procedure non compliance to line manager.

Research and Development

- Participate in the evaluation and implementation of new equipment, analytical methods, laboratory procedures and organisational changes as delegated by the management of the department
- Compile and collate data used to create reports for internal and external audit committees.
- Keep up to date on the scientific, technical and theoretical developments in the laboratory field.

Professional and Scientific Duties

- Will be lead specialist for area of responsibility.
- Will perform a range of routine and highly complex diagnostic tests.
- Examples of routine laboratory procedures which are performed daily e.g.
 - ***Analysis of semen specimens in the investigation of infertility.***
 - ***Cutting and staining tissue sections for microscopic analysis.***
 - ***Preparation of body fluids for microscopic examination.***
- Examples of specialised complex laboratory tests, these are tests which require a higher level of technical expertise and knowledge and which can be performed daily e.g. HPLC, interpretation of drugs of abuse
- Interpretation of results of routine and highly complex tests.
- Instigate and recommend appropriate further tests to aid the diagnosis of a disease.
- Responsible for validation and authorisation of clinical laboratory results, issuing reports/results to service users e.g. clinicians. Recommending further tests/actions when required with referral to more senior staff /Consultant as appropriate.
- Reporting critical or urgent results directly to clinicians/nursing staff with referral to more senior staff/Consultant where required.
- May train in additional discipline e.g. Biochemistry/ Immunology/ Haematology /Microbiology /Cytology.

- Liaise with colleagues in other departments and hospitals to arrange specialised tests to be performed.
- May participate in an out of hours rota working alone for prolonged periods.
- Perform near patient blood tests and procedures.

6. EQUIPMENT & MACHINERY

- The post-holder is personally responsible for the safe use and maintenance of a range of highly complex equipment costing up to £100,000 for a specialised piece of equipment such as a multi-test analyser, chromatographic equipment, radioisotope counter and vacuum assisted tissue processor.
- Perform advanced maintenance, troubleshooting and repair on all equipment to ensure the accuracy of results and the safety of self and all subsequent users.
- Work with the BMS3 or BMS in technical charge of department and/or clinical/medical laboratory staff
- To advise on equipment selection to ensure it is appropriate to the clinical needs of the service.

7. SYSTEMS

- Ensures the integrity of the patient database within the laboratory computer system by accurate registration of patient demographics and request details.
- Input laboratory results generated by self and others.
- Accesses patient and request information on the laboratory computer system and authorises reports.
- Utilises the electronic Quality Management systems.
- Interacts with Laboratory computer system to provide data for management information purposes e.g. audit.
- Operates and troubleshoots interfaces between laboratory Computer system and complex analytical equipment.
- Interrogates the Hospital Patient Management System (PMS).
- Uses proprietary software packages such as Microsoft Office to facilitate laboratory management functions.

8. DECISIONS AND JUDGEMENTS

- Will make the first line management decisions on the running of a section(s) and ensure the standards required for Clinical Pathology Accreditation are being met.
- May be required to deputise for more senior BMS/BMS in technical charge of Department.
- Manages workflow and staff, in area of responsibility, to ensure efficient processing of samples and prioritisation of workload.
- Follows standard operating procedures and also creates and modifies standard operating procedures for area of responsibility in compliance with departmental policy.
- May train to and participate in recruitment selection, staff personal development and training.
- Involved in the selection and validation of new instrumentation.
- Refers issues outside remit to more senior Laboratory staff.
- Deals with technical inquiries from Biomedical Scientists, trainee Biomedical Scientists and Medical Laboratory Assistants.
- Is competent and as Lead Specialist will advise on interpretation of complex diagnostic test results in a variety of formats and make valid judgements on the basis of data e.g. :
 - ***Microscopic assessment of blood films to identify leukaemia***
 - ***Microscopic assessment of cervical smears to identify pre-cancerous cells.***
 - ***Examination of cerebro-spinal fluid (CSF) in the diagnosis of meningitis.***
 - ***Analysis of urine samples for detection of drugs of abuse.***
- Responsible for validation and authorisation of clinical laboratory results, issuing reports/results to service users e.g. clinicians. Recommending further tests/actions when required with referral to more senior staff/consultant where appropriate.
- Participation in the out of hours rota working alone for extended periods of time.

9. COMMUNICATIONS & RELATIONSHIPS

- Provides explanation of laboratory information varying from routine to highly complex, to clinicians and other users, and recommends further tests/actions required, advising on suitability of tests and outcomes in line with departmental policy.
- Receives information from senior laboratory staff, clinicians and other users varying from routine to highly complex requiring interpretation, analysis and further action.
- Interacts with service users in highly stressed situations e.g. liaising with clinicians in complicated transfusion cases e.g. during major haemorrhage, where contention over availability of blood/blood products may be encountered.
- Relays information to patients where empathy re-assurance and accurate communication are essential and where lack of understanding, contention and hostility can be encountered:
 - **Advising oncology patients on the storage of semen specimens prior to chemotherapy**
 - **Neo-natal and paediatric sweat electrolyte collection**
 - **Assists with sampling skin lesions in the diagnosis of meningitis.**
 - **Assesses and adjusts anti-coagulant dosage for patients at out-reach clinics.**
- Motivation of staff to meet targets e.g. turnaround times of specimens.
- Ensures relevant information is cascaded to staff within their area of responsibility.
- Notifies appropriate staff of clinically significant results or results out-with reference ranges.
- Deals with telephone enquiries and queries from all sources, providing explanations and comments. Where appropriate directs inquiries to senior laboratory staff.
- Devise, develop and participate in training of Biomedical Scientists, Trainee Biomedical Scientists, Medical Laboratory Assistants and other trainee grades in procedures varying from routine to highly complex within their area of responsibility.
- Participates in departmental meetings and Directorate seminars and contributes to effective communication within the department and may chair specific staff meetings
- Communicates with other staff groups including Medical, Nursing, Clerical, Porters, Estates staff and Drivers.
- Provides formal training to other staff groups e.g. nursing staff, porters on laboratory interactive issues.
- Communicates non-conformities or malfunctions to Biomedical Staff of all grades, notifying senior laboratory staff and/or engineers/outside contractors.
- Communicates with educational establishments and external research staff.
- Attends and occasionally delivers presentations at educational seminars both locally and regionally.
- May participate in and convene Directorate level meetings and participate in Hospital level meetings e.g. Directorate Safety Group, Clinical Waste group.

10. DEMANDS OF THE JOB (PHYSICAL, MENTAL, EMOTIONAL)

Physical Skills

- Frequent use of microscope or similar devices
- Accurate hand/eye co-ordination required for manipulation of sample material on microscope slides or electrophoresis gels.
- Use of specialist equipment requiring fine adjustment e.g. small sample injection, analyser adjustments and maintenance.

Physical Demands

- Combination of sitting for long periods of time when using a microscope or when using laboratory instruments. Standing whilst selecting and cross matching blood for patients or operating analysers. In all cases repetitive movement is required
- Sole working continuously out of hours for long periods of time.
- Some manual handling may be undertaken, such as manipulation of gas cylinders, moving of bulk reagents or clinical waste.

Mental Demands

- The job demands frequent periods of prolonged concentration for the majority of a shift e.g. to identify malignant disease, septicemia and tuberculosis (TB) by microscopy.
- Pressure of line management responsibility for performance of section(s).
- May involve entering and screening large quantities of numerical data, which requires intense concentration to interpret data.
- Involved in maintaining a service in the presence of possible adverse events including equipment failure.
- Job requires multi tasking and prioritisation of work. There are frequent interruptions from phone calls and technical queries.
- Handling outbreaks of infectious disease in hospitals and communities.

Emotional Demands

- Responsibility for assessment and communication of staff performance and Human resource issues within area of responsibility.
- There is an occasional requirement to interact with patients undergoing difficult and painful tests where patients may be distressed and upset.
- Pressure to ensure clinical specimens are examined correctly and timeously, knowing that inaccurate and delayed results could result in inappropriate treatment of patients.
- Direct patient interaction for near patient testing where patient could be distressed.
- Safe handling of radioisotopes.

Working Conditions

- Continuous, unavoidable exposure to open samples of blood and other potentially infectious biological body fluids.
- Manual manipulation of highly unpleasant specimens e.g. extracting bone marrow tissue from surrounding aspirate; sampling from faeces specimens for culture, exposure to dissection of recognisable body parts.
- Continuous risk of exposure to or spillage of reagents, chemicals, solvents, radioactive isotopes, during test analysis, many of which are potentially hazardous or carcinogenic.

11. MOST CHALLENGING/DIFFUCULT PARTS OF THE JOB

- Meeting the day-to-day needs of the service, within existing resources.
- First line management responsibility for staff and scientific issues within area of responsibility.
- Mixing technical and clinical aspects of analysis to provide a safe, accurate and timely service, reducing the potential serious consequences of a laboratory error.
- Making complex decisions about the clinical significance of laboratory results, taking into consideration; clinical specimen, the age and sex of patient and relevant clinical details
- Prioritisation of urgent requests including clinical emergencies whilst maintaining workflow of other requests.
- Maintenance and review of documentation for the quality management system

12. KNOWLEDGE, TRAINING AND/OR EXPERIENCE TO DO THE JOB

- State registration with the Health Professions Council is mandatory.
- MSc in Biomedical Science or Fellowship of the Institute of Biomedical Science or equivalent experience (at least 5 years experience as BMS1 and evidence of continued development in relevant discipline).
- Formal evidence of highly specialist knowledge of a range of discipline specific procedures.
- Evidence of continuing professional development, for example, a specialised portfolio of development, attendance at specialist courses, training on new instrumentation, learning through reflective practice.
- For those staff reporting cervical cytology, the NHS Cervical Screening Programme Certificate in Cervical Cytology and compliance with NHSCSP guidelines is mandatory.

Job Description Agreement

Job Holder's Signature

Date

Head of Department Signature

Date